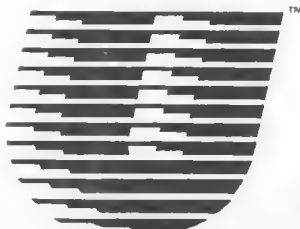


1829-15A

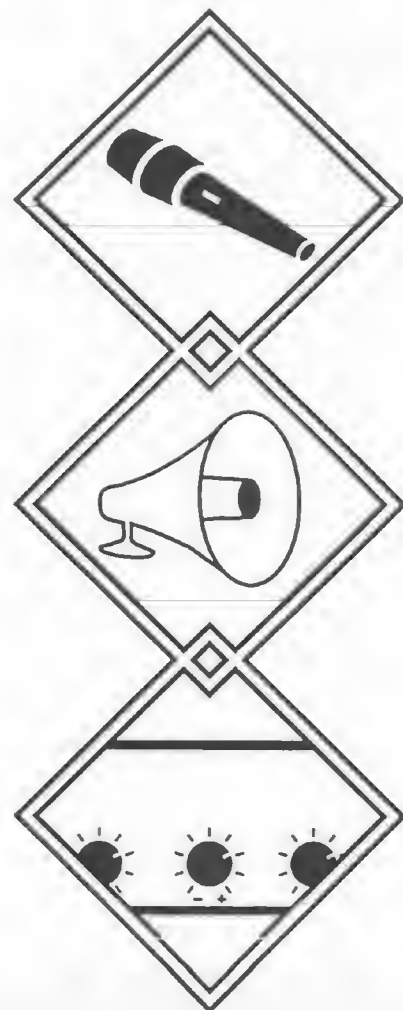
15 Watt FM

Receiver

Owner's Manual



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Description:

The Model 1829-15A is a solid state monaural receiver consisting of a tuner for the 88 to 108 MHz FM band and a 15 Watt RMS audio amplifier. There are five controls on the front panel identified as VOLUME, TONE, TUNING, POWER SELECT and AFC. The VOLUME control adjusts the output level of the unit and the TONE control adjusts the treble response. The TUNING knob selects the station desired as indicated by the pointer on the slide dial. The POWER switch turns the unit on and off, and is linked to the accessory outlet on the rear panel. The SELECT switch permits a choice of either the built-in tuner or an external music source as the program material. The AFC switch permits defeat of the automatic frequency control circuit to aid in fine tuning.

All input and output connections are made on the rear panel of the unit. Screw terminals are provided for antenna connections as well as power output connections. Power outputs are provided for 4 Ohm and 8 Ohm direct speaker coil connections, as well as 25 Volt and 70.7 Volt constant voltage distribution lines. A 500 Ohm music-on-hold (MOH) output with level adjust is provided. The PRE AMP IN/OUT jack can be used as an output to drive an external amplifier, or as an input to accept the signal from a tone generator. The AUX input allows for connection of an alternate program material source. The MOH, PRE AMP IN/OUT, and AUX connections are all made on standard RCA phono jacks.

The receiver is housed in a sturdy steel cabinet measuring 12 $\frac{3}{8}$ " x 8 $\frac{1}{4}$ " x 3 $\frac{1}{8}$ " which may be rack mounted using the Model RPK-6 rack mounting kit. The unit operates from a standard 120 VAC 60 Hz power source and is protected by a push-to-reset circuit breaker.

Unpacking

The unit should be removed carefully from the carton and inspected for any possible damage in transit. If there is any evidence of damage which might have occurred in shipment, immediately notify your supplier or the transportation company which delivered it. Claims for damage sustained in transit must be made upon the carrier. Save all packing material for the claim agent who will supply you with the proper forms and give you the necessary instructions for filling out a claim.

Installation

The 1829-15A has ample vents for adequate ventilation; however, the unit must be installed with sufficient clearance around the cabinet to permit free air flow. Do not install the unit in a sealed box or cabinet without adequate ventilation. DO NOT PLACE ANY OBJECT ON TOP OF THE COVER OR IN ANY WAY BLOCK THE AIR FLOW OF THE VENTS. DO NOT STORE OR OPERATE THE AMPLIFIER IN AREAS WHERE THE AMBIENT TEMPERATURE EXCEEDS 140 DEGREES F.

The amplifier has an AC power cord with a 3 prong plug. This unit should be used with a 120 Volt 60 Hz grounded outlet. DO NOT REMOVE THE GROUNDING PIN FROM THIS PLUG as it is the safety ground for the metal cabinet. An AC receptacle is provided on the rear panel of the receiver for powering accessory equipment. This receptacle is linked to the POWER on-off switch so that the accessory equipment is turned on and off with the receiver.

Connections

All connections are made on the rear panel of the unit. Connection to the AUX INPUT, MOH OUTPUT, and PREAMP IN/OUT are each made by means of a standard RCA phono jack. These circuits require the use of a shielded audio patch cord to prevent RFI/EMI noise pick-up. All other connections are made on screw terminals, using simple two conductor cable.

Aux Input

This input is a high impedance unbalanced input and has a sensitivity of 0.25 Volts, suitable for matching the output from most tape players or other audio equipment with line level output. To use this input as the source of the program material instead of the unit's tuner, slide the SELECT switch on the front panel to the AUX position.

Antenna Input

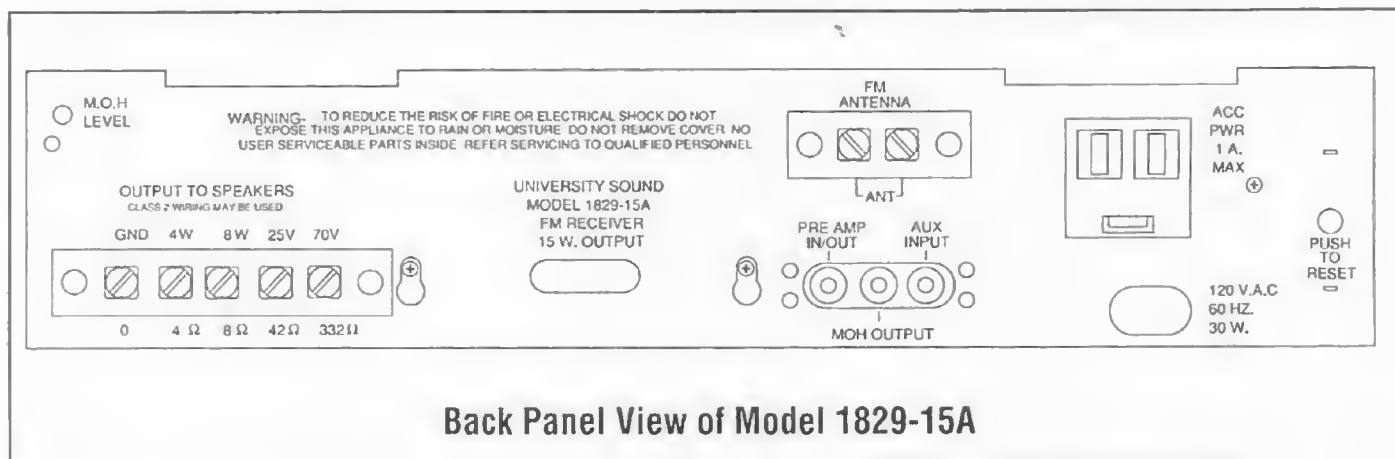
For normal FM reception, the short antenna lead supplied with the unit is sufficient for most locations. In the event that the tuner is located in a remote area, an external dipole antenna will increase the number of distant stations that can be received. This external antenna is to be connected across the terminals marked FM ANT.

Preamp In/Out

This jack provides access to the mix buss, which is the circuit in the receiver that connects the output of the preamplifier to the input of the power amplifier. Anything connected to this access point must be high impedance to prevent shorting out the music. This jack may be used as an output to drive the input of another amplifier or monitor the output of the 1829-15A. When used as an input, the source could be a Model TGSP-4A tone generator to provide a chime tone or alarm signal. Any input signal connected in this way is unaffected by the front panel controls.

MOH Output

A 500 Ohm unbalanced output is provided that may be used as the music-on-hold source for most phone systems. The maximum output level available is 1 Volt, and is adjustable from the control on the rear panel marked "MOH LEVEL."



When using a MOH system with an 8 Ohm input, do not connect the input to the 8 Ohm output of the receiver, as it will overload the MOH circuit. Instead connect the 8 Ohm winding of a 25/70.7 Volt line matching transformer tapped in the area of 1/4 to 1/2 Watt.

Output Connections

15 Watts RMS power output is provided for 4 or 8 Ohm speaker lines or for distribution on 25 Volt or 70 Volt lines. Output connections are made by means of screw terminals on the back of the unit.

Long speaker lines have an appreciable resistance, resulting in output power loss between the amplifier and the speakers. This power loss can be avoided to a large degree by using 25 Volt or 70.7 Volt constant-voltage lines. The 25V and 70.7V outputs are used in speaker distribution systems in which each speaker has a line matching transformer connected to it. This allows for the connection of speakers having different wattage ratings, and greatly simplifies the calculation of the total system wattage demand. When using either of these outputs, connect one wire of the speaker system to the appropriate 25V/70.7V terminal and the other wire to the "GND" terminal. To avoid inducing hum into the speaker lines do not run speaker cables parallel to power lines. In some areas,

70.7 Volt distribution lines must be run in conduit. Check the local city electrical codes before installing a 70.7 Volt speaker system to determine the requirements.

The 4Ω and 8Ω outputs are used when connecting directly to speaker voice coils. When using these outputs, connect one speaker wire to the appropriate 4Ω or 8Ω terminal, and the other wire to the terminal marked "GND." Do not load both outputs at their rated impedance simultaneously, as this will act as a demand for twice the rated output and overload the amplifier. Similarly, do not load both a speaker coil output and a 25/70.7 Volt output at full power demand. A combination of speaker loads is permissible using the various outputs from the amplifier; however, the sum of these demands should not exceed the rated output of 15 Watts of the 1829-15A.

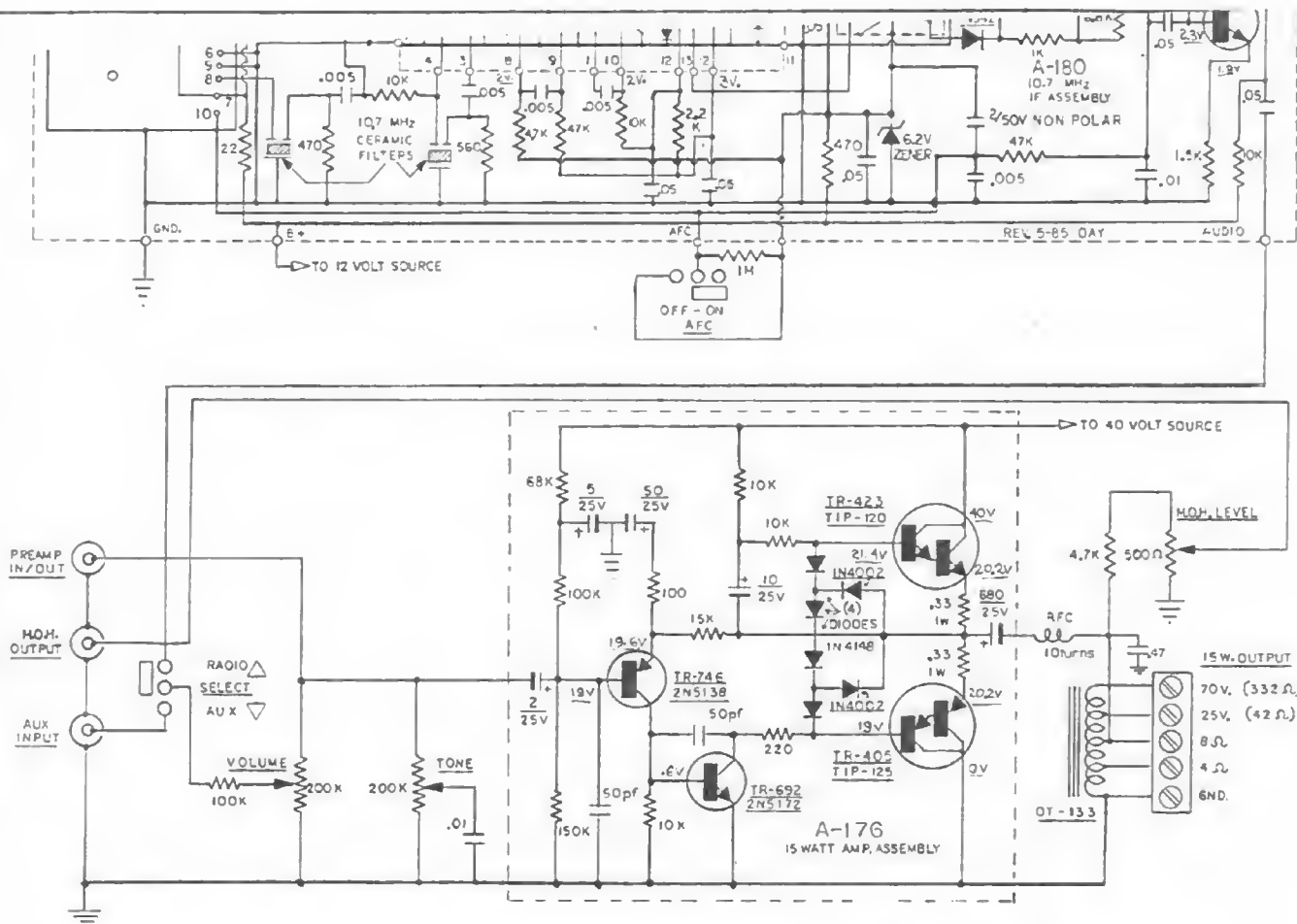
Optimum performance of any amplifier depends upon proper impedance match between the output and the load. Connecting a load of mismatched impedance to an amplifier will deteriorate the overall performance of the system. To accurately measure the impedance of a speaker line, the Model LWT should be used. This test instrument permits direct reading of the wattage demand or impedance of a speaker line and is a valuable aid in determining opens, shorts, and mismatch conditions.

Specifications

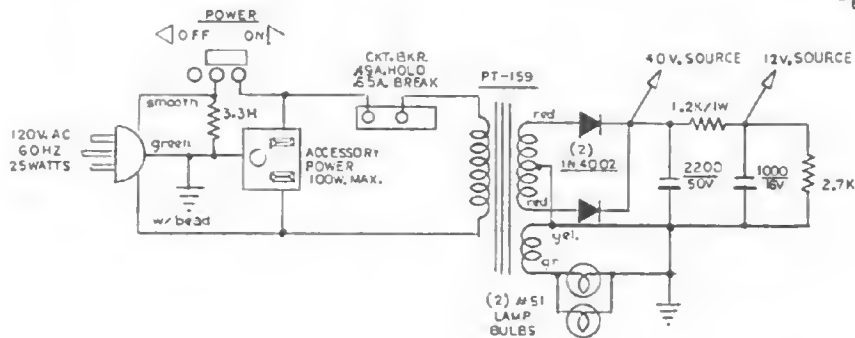
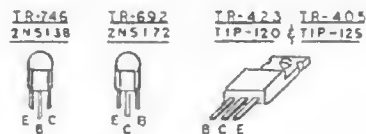
Power Output	15 Watts RMS
Total Harmonic Distortion @ 15W	<1.0% @ 1kHz
Frequency Response	50 Hz - 15 kHz, ±2 dB
Tone Control	-20 dB @ 10 kHz
Signal-to-Noise Ratio	70 dB
Input Sensitivity/Impedance	
Music	280mV / 50KΩ
Preamp In/Out	200mV / 50KΩ
Output Level/Impedance	
Tuner Output	0.3V / 3KΩ
MOH Output	1V / 500Ω
Speaker Outputs	4Ω, 8Ω, 25V, 70.7V

Tuner Section

Tuning Range	88-108 MHz FM
Antenna Input	300Ω
Sensitivity	3μV
Protection	Push-to-reset breaker
Dimensions	
Height	3.125" (79mm)
Width	12.375" (31cm)
Depth	8.25" (21cm)
Weight	10 lbs. (4.5 kg)
Rack Mount Kit	Model RPK-6
Power Requirements	120 VAC, 60 Hz, 25 Watts



NOTE: PARTS AND CIRCUIT SUBJECT TO CHANGE FOR IMPROVEMENT WITHOUT PRIOR NOTICE



Cetec Raymer Division of Cetec Corporation
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SCHEMATIC:

RAYMER MODEL 829-7A
15 WATT FM RECEIVER

ENGINEER: C. KOGGE DATE: 5-2-85 24